

# AUTOIMMUNE HEPATITIS

testing. Two antibodies that may develop in the blood are the ANA (antinuclear antibody) and the SMA (smooth muscle antibody). Also, a certain type of blood protein called gamma globulin is frequently elevated. A liver biopsy is always needed to determine how much inflammation and scarring has developed. This exam is performed under local anesthesia. A slender needle is inserted through the right lower chest to extract a small piece of liver tissue. The tissue is then examined under a microscope. This information allows the physician to tailor the treatment to each individual patient.

## TREATMENT



Prednisone



Imuran



Healthy Diet



Liver Transplant

## Treatment

The treatment of autoimmune hepatitis is aimed at curbing the autoimmune response, and therefore the damage to liver cells. It is most effective when begun at an early stage of the disease. In most cases, the initial treatment is with a cortisone drug, usually prednisone (trade names: Deltasone, Orasone). Sometimes a second drug, such as Imuran, may be added. The medication is taken daily, usually for at least a year. The physician may attempt to taper and stop treatment if the patient is doing well. However, a relapse often occurs, and the medication then must be restarted and taken

indefinitely. There may be side effects with prednisone, such as swelling of the face, retention of fluid, and weight gain. Long-term treatment with these drugs may also cause loss of bone. This can lead to osteoporosis, or even severe damage to joints such as the shoulder and knee. Therefore, the physician uses the lowest dosage possible to decrease symptoms, improve liver tests, and slow liver damage.

Unfortunately, a few patients do not respond well to treatment, especially if the disease is diagnosed late and cirrhosis is well advanced. When the patient no longer responds to treatment with medication and liver damage is severe, a liver transplant is considered.

## Liver Transplantation

Liver transplantation is now an accepted form of treatment for chronic, severe liver disease. Advances in surgical techniques and the use of new drugs to suppress rejection have dramatically improved the success rate of transplantation. The outcome for patients with autoimmune hepatitis is excellent. Survival rates for this condition at transplant centers are well over 90 percent, with a good quality of life after recovery.

## Summary

Autoimmune hepatitis is inflammation of the liver. The inflammation is a result of the immune system developing antibodies against the liver. It is not a contagious disease, but it is a serious chronic disease that can lead to irreversible cirrhosis, and eventually to liver failure. However, the outlook for patients with autoimmune hepatitis is generally very favorable. With early diagnosis, drug treatment to prevent serious liver damage is effective in most patients. For those few patients who do not respond to other treatment, successful liver transplantation is now a standard form of therapy when liver damage is severe.

This material does not cover all information and is not intended as a substitute for professional medical care.

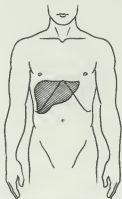
## The Liver

The liver is the largest organ in the body. It is found high in the right upper abdomen, behind the ribs. It is a very complex organ and has many functions. They include:

- Storing energy in the form of sugar (glucose)
- Storing vitamins, iron, and other minerals
- Making proteins, including blood clotting factors, to keep the body healthy and help it grow
- Processing worn out red blood cells
- Making bile which is needed for food digestion
- Metabolizing or breaking down many medications and alcohol
- Killing germs that enter the body through the intestine

The liver shoulders a heavy work load for the body, and almost never complains. It even has a remarkable power to regenerate itself. Still, it should not be taken for granted. The liver is subject to illnesses that can lead to permanent damage. One example is autoimmune hepatitis, a condition in which the body fights against its own liver.

### LOCATION OF LIVER



## What is Hepatitis?

When cells in the body are injured by such things as chemicals or infection, the area that is wounded becomes inflamed. Hepatitis is inflammation of the liver, which in turn causes damage to individual liver cells. It is most often caused by viral infection. However, it can also be caused by alcohol, certain drugs, chemicals or poisons, or other diseases.

Hepatitis may be either acute or chronic. In acute hepatitis, the inflammation develops quickly and lasts only a short period of time. The patient usually recovers completely, but it can take up to several months. Occasionally, a person fails to recover fully, and the hepatitis becomes chronic. In other words, it continues at a smoldering pace. Chronic hepatitis can develop over a number of years without the patient ever having acute hepatitis or even feeling sick. As the liver repairs itself, fibrous tissue develops, much like a scar forms after a cut or injury to the skin heals. Advanced scarring of the liver is called cirrhosis. Over time, cirrhosis irreversibly damages the liver, eventually ending in liver failure.

## What is Autoimmune Hepatitis?

The immune system consists of different types of white blood cells that help to fight infections. Some of these cells produce antibodies. Antibodies act as warriors. They defend the body by destroying bacteria, viruses and other foreign materials. There are different kinds of antibodies, each fighting against a specific foreign substance. Thus, the immune system protects the body against outside invasion by germs. But sometimes, the immune system mistakenly recognizes the body's own organs as foreign. It can develop antibodies against these organs. This can cause various illnesses, such as rheumatoid arthritis and lupus. These illnesses are called autoimmune disorders because the body is literally fighting against itself.

When the immune system attacks the liver in this way, it is called autoimmune hepatitis. Autoimmune hepatitis is not caused by a virus or

### DIAGNOSIS



Blood Test



Liver Biopsy

bacteria, so it is not a contagious disease. Exactly what triggers the immune system against the liver is unknown. The inflammation is usually chronic, and without treatment it can cause serious injury to the liver.

## Symptoms and Diagnosis

Autoimmune hepatitis occurs mainly in adolescent or young adult women (about 70% of the time). However, there have also been cases of older women and men developing the disease. Early symptoms are the same as those for most types of hepatitis: fatigue, abdominal discomfort, and aching joints. These early symptoms are sometimes mild and mistaken for other illnesses, such as the flu. So, it is wise for people with these symptoms to consult a physician. When autoimmune hepatitis progresses to severe cirrhosis, there may be jaundice (yellow coloring to the skin and eyes), marked swelling of the abdomen from fluid inside the abdomen, intestinal bleeding, or mental confusion.

The physician often suspects autoimmune hepatitis from the patient's medical history. For example, patients with other autoimmune diseases—thyroiditis, ulcerative colitis, diabetes mellitus, vitiligo (a patchy loss of pigment in the skin), Sjogren's syndrome (a condition causing dry eyes and mouth)—are more likely to have autoimmune hepatitis. A definite diagnosis of autoimmune hepatitis is obtained with blood